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IoT based Smart Mirror using Raspberry Pi

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***Abstract*-This project represents the development and designs of a mirror that Shows a graceful interface for glancing information, and it is also used for setting the To-Do list. And in this android facilities can also be added. The Smart mirror is such kind of device that functions as a mirror with many advanced capabilities of displaying multimedia data i.e. Videotext and images.**

***Keywords*- IOT,Smart Mirror, Internet of Things, Mirror usig Raspberry pi**

I.INTRODUCTION

In this present world, every person wants a comfortable life. So many genius people have invented many different-different technologies, for different purposes. In this era, every person wants to connect and willing to access information very smoothly from all over the world. Whether is through the print media, Digital- media, or through the Social media.

In this time with the help of internet made everything very easy and comfortable as well as affordable, every person Desired to be informed and Want to be in touch with the current news of the world. Internet of Things means the Interconnection of Digital electronics with the internet and make life comfortable because with the help of the Internet one Electronic device can send or receive data from another device. The rapid growth of The Internet of Things widens its applications to this living environment. The IoT has been changing the Home to the Smart Home; Smart Home is such Kind of home.

In which all the digital electronics device is connected for communication. The lifestyle of the people has been evolved in such a way that managing the time is the most important thing. Our work is based upon the idea that we the people in the morning look at our face in the mirror after washroom, so it can make us remember the time headlines of news and the To-Do list of the day so we can manage the time And Can start the work full of energy and get efficient results. And another time when we go outside of the home

At that time we look to the mirror then we can see the temperature and weather condition of the outside So we can manage the thing or get prepare for condition, and Now a day everything in this world is going to be smart than why not mirror should be smart?. A general approach for making a smart mirror is to use an advanced quality of Two-way mirror with the combo of LCDA-frame for holding the glass and the other Equipment, Raspberry pi which is the CPU of the mirror and the Software which is Suitable for the python language have features to derive to display. This project has developed with such an idea of making a Mirror smart Than Earlier as well as making a home smart to save time this device is called "Smart Mirror" it is also called a magic mirror.It is a Skillfully Positioned mirror in which The User will see or get the relevant Data items such as date, time, News headlines, Temperature and Weather, humidity and, all the things which are related to your Interest.

IoT emerged the idea of remotely monitoring objects or with the help of sensors through the Internet. When it comes to our home in the human life Management of time is one of the biggest issues, because people are not able to do9 the work in Organize way if the focus in one side then they are not.

II. LITERATURE SURVEY

In 2003 in a survey a We found with the help of the smart mirror principle has been Mirror TV was built. Using. That mirror TV was simple, but that was set up just behind a two-way mirror so that the TV would appear as a mirror when turned off and it will work as a Television when turned on. There also was an advanced option by which we can do the mirror bigger than the TV. They can use that TV while they are brushing.

After that in 2005 In an announcement of the research paper by Phillips called "My Heart" that was on the idea of an instructive mirror. While their original Mirror TV was simply a TV that also functioned as a mirror, the "My Heart "project had been integrated to showcase various statistics for medical. However, this project required body electronics for collecting and analyzing the data. The mirror itself simply served as an informative display.

In 2011 A commercially sold Smart Mirror has been developed by James Law Cyber texture that mirror was consist of a 32-inch LCD has been covered by a 37-inch Two-way mirror that can show News forecasts, Internet Stream, Television programs, time, and something more This Smart mirror had so many input method such as

remote controller, Smartphone app and much more Functional it in 2013, Franco Chiarugietal wrote a paper about the project's inspiration and relationship. The goal of the study was to discover and gather quantitative elements connected to stress, anxiety, and weariness of the official expression that could be used for an individual or a group of people using multisensory devices to collect data. The information gathered would be saved in a database.

In **2014 Toshiba** showcased its smart mirror concept at the 2014 International Consumer Electronics Show (CES). Gesture control was used as an input method. Toshiba demonstrated its smart mirror in a variety of residential settings. The smart mirror would be personalized for the purpose it would serve in each space, according to their plan. The smart mirror in the bathroom would display information such as the weather forecast and the time.

Microsoft revealed details about the smart mirror they've been working on in 2016. Their goal appears to be to reveal all the specifics on how to build a smart mirror and make all the code publicly available on a GitHub repository, rather than to create a commercial smart mirror to sell to consumers. Rather than ordering a finished product, shoppers can choose to build their mirror as a DIY project.

In 2016 Chidambaram Sethukkarasi designed an integrated mirror that identifies a person based on their features, understands emotions, records health factors, and recommends attire. Their paper does not go into great detail about any of the increased physicals, instead of attempting to bring all of the ideas together under the banner of an intelligent mirror.

In 2017 Hi-Mirror, a smart mirror created by New Kinpo Group was released. This smart mirror has a camera that monitors your skin's health. The mirror will scan your skin and provide you with a metric that will tell you what you need to work on. Daily, the mirror logs a user's skin firmness, texture, clarity, brightness, and health using facial recognition.

III. METHODOLOGY

1. Smart Mirror asa Mirror:

- In the mirror, we can see ourselves as we would in a plane mirror.
- When grooming with the help of a two-way mirror containing a high concentration of aluminum

2. Smart Mirror asan Information System:

- Date, time, weather information, and news are all retrieved from the internet using a specified URL.
- The humidity and temperature details are obtained using a DHT22 –digital sensor.

3. Smart Mirror asto do Board:

When someone is very conscious of their time and has a very busy schedule, they must work very effectively and manage their time. For example, if they need to get a product in a short period, they can make a list of tasks after planning the next day in the evening, and then use it in the morning to manage their time it in the morning to manage their time.

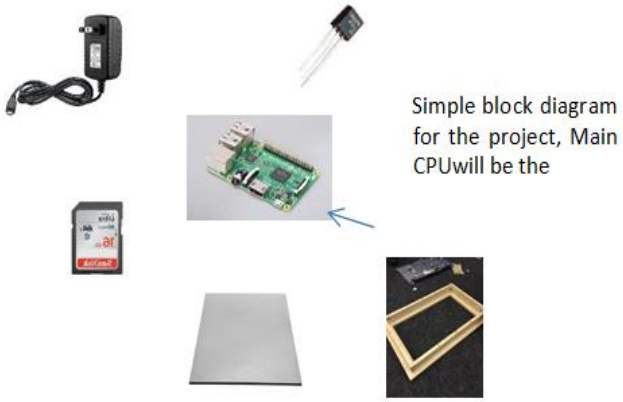

Fig 1.Smart MirrorBlock Diagram.

4. Information System Algorithm:

- **Step 1:** Turn on the power source.
- **Step 2:** Obtain the date, time, and weather information from a URL that has been predefined.
- **Step 3:** It will Search www.zeenews.com is a great place to get the latest news.
- **Step 4:** In the code section, list all of the compliments that will be displayed on the mirror.
- **Step 5:** In the Two-Way Screen, show the mirror.
- **Step 6:** we will switch to the To do list.

IV. RESULTS

A futuristic smart mirror system that displays information such as time, date, exact temperature and humidity, and the latest news while grooming in front of the mirror, as well as assisting in grooming.Managing the time by using to do list in the mirror.

Fig 2.Final view of Smart mirror.

V. CONCLUSION

Smart mirrors have a lot of potential for improving the user's information access and interaction experience. Not only do they make it simple for consumers to access pertinent information, but they also save time, they also can integrate it as to do list board as well as android function in future our smart mirror saves time and makes information more accessible.

In this society of competition Time management is very escentional. By keeping this in mind we can integrate it as an android to do list. Many people are becoming aware of IoT because of its usefulness in all aspects of life. One example of floating IoT is the smart mirror, which will assist people in starting the day by displaying the information required. The smart mirror will continue to develop with voice control that will later be connected as a smart home, such as turning off the lights.

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